REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

3. (Amended)A tunable laser according to ~~either~~ claim 1 ~~or claim 2~~, characterized in that the length L_2 of the tunable section (2) depends on the tuning range of the laser in accordance with the following equation:

$\Delta\lambda = \lambda^2/2(n_1L_1+n_2L_2)$

where $\Delta\lambda$is the tuning range of the laser,

λ is the emission wavelength of the laser, and

n_1, n_2 are the respective refractive indices of the first and second sections of the laser cavity.

5. (Amended)A tunable laser according to ~~any preceding claim~~claim 1, characterized in that the fixed reflector (15) and the mobile reflector (20) each have a reflectivity greater than or equal to 90%.

6. (Amended)A tunable laser according to ~~any preceding claim~~claim 1, characterized in that the fixed reflector (15) is an etched mirror.

10. (Amended)A tunable laser according to ~~any one of claims 6 to 9~~claim 6, characterized in that the fixed reflector (15) is on the front face of the active section (1).

11. (Amended)A tunable laser according to ~~any preceding claim~~claim 1, characterized in that the rear face of the active section (1) is antireflection treated.

12. (Amended)A tunable laser according to ~~any preceding claim~~claim 1, characterized in that the mobile reflector (20) is a mirror external to the laser cavity.

16. (Amended)A tunable laser according to ~~any one of claims 12 to 15~~claim 12,

characterized in that the mobile reflector (20) is controlled by a micro-electro-mechanical (MEM) controller.

17. (Amended)A tunable laser according to ~~any one of claims 1 to 16~~claim 1, characterized in that the tunable section (2) is an air area.

18. (Amended)A tunable laser according to ~~any one of claims 1 to 16~~claim 1, characterized in that the tunable section (2) is a gas area.

19. (Amended)A method of fabricating a tunable edge-emitting semiconductor laser according to ~~claims 1 to 18~~claim 1, characterized in that it includes the following steps:

- producing a laser die (10) including a substrate (8) and an active layer (11) consisting of a gain medium, the length L_1 of the gain medium being from 5 μm to 12 μm,
- producing a fixed etched mirror (15) on the front face of the laser die (10),
- mounting the laser die (10) on a base (50), and
- producing a mobile reflector (20) on the base (50) to the rear of the laser die (10).